

## The authorship of the names of two birds from Réunion

by Edward C. Dickinson & Anthony S. Cheke

Received 13 May 2015

SUMMARY.—A number of endemic birds from Réunion, Indian Ocean, were described and named by Brisson (1760) whose species-group names are unavailable. Some were subsequently the subject of plates in the *Planches enluminées* (Daubenton 1765–80, Buffon 1770–83). Among them are Réunion Bulbul *Hypsipetes borbonicus* and Réunion Grey White-eye *Zosterops borbonicus*. Although the former was attributed to J. R. Forster, 1781, by Rand (1960), both have generally been attributed to J. F. Gmelin, 1789, or, in the case of *Zosterops*, also to Boddaert, 1783. Here we explore whether both should be credited to Forster, since he validly introduced both names.

The island of Réunion in the Indian Ocean, an overseas 'Département', or administrative division, of France, was named the Isle de Bourbon (or Île Bourbon) from 1649 after the patronym of the French royal family of the period. The initial change of name to La Réunion occurred in 1793 when the French Revolution saw the fall of the monarchy. French settlers had by then been on the island c.130 years, having been brought there by the French East India Company. The name Réunion became permanent only after 1848 when the Second Republic replaced the restored French monarchy which, in 1814, had followed the final defeat of Napoleon Bonaparte (Toussaint 1972).

Prior to French settlement the island was known to the Portuguese, reputedly as early as 1507, and the group of islands that includes Réunion is known as the Mascarenes, taking its name from its Portuguese supposed discoverer (Dom Pedro Mascarenhas). Although previously uninhabited, the islands were apparently known to Arab mariners whose maps aided the Portuguese (North-Coombes 1980).

The species-group epithet *borbonica* or *borbonicus* — which did not appear in the *Systema naturae* of Linnaeus (1758, 1766) — was employed by four authors in the period 1781–90 (Forster 1781, Boddaert 1783, Gmelin 1789, and Latham 1790) all or almost all apparently based on material known to Brisson (1760). The source given by Brisson (1760) on p. 294 of vol. 2 of his *Ornithologie* was a M. de Lanux<sup>1</sup> who had sent specimens of several Réunion species to Réaumur (Cheke 2009) and whose important collection held at a museum in Rue de la Roquette, Paris, was discussed by Stresemann (1952). As Stresemann reported, following Réaumur's death in October 1757, the king ordered the collection be transferred to the Cabinet du Roi (the 'galerie d'oiseaux'), managed by Buffon. Buffon then instructed Martinet, who had provided the black-and-white illustrations for Brisson's book, to paint every species in colour, which was performed under the direction of Daubenton, and the *Planches enluminées* (Daubenton 1765–80) began to appear in 1765 (Schmitt 2007). The *Planches* bore names in French that correspond to those used by Brisson (1760). In his texts relating to the illustrations in the *Planches* Buffon (1770–83) sometimes used different French names, e.g., renaming Brisson's 'Figuier de l'île Bourbon' as 'Petit simon' from contemporary local Réunion usage (Cheke 2009). Schmitt (2007) reproduced the complete set of the *Planches* with modern identifications, although a few are uncertain or incorrect, notably, in the context of this note, figs. 705 and 681.

<sup>1</sup> Jean Baptiste François de Lanux (1702–72), colonial administrator and amateur naturalist (Lacroix 1936).

Brisson's work included scientific names in Latin, but it was not consistently binominal and, while some genus-group names from his work are accepted, names he used for species must be attributed to later authors (see Direction 16, ICZN 1955, and Direction 105, ICZN 1963). Linnaeus (1766) incorporated only a proportion of the species that Brisson newly described<sup>2</sup>. Thus the four authors mentioned above had the opportunity to list the others. Of these four, Boddaert's work is concerned solely with identifying the species depicted by Martinet in Daubenton's *Planches enluminées*.

Sherborn (1902) reported use of the adjectival name *borbonicus*, *-a* in zoology prior to 1801; in connection with birds listing ten names in seven genera, three being named identically by two different authors. These were: 'Pennant in Forster' (1781) *Motacilla borbonica* [now *Zosterops borbonicus*, see below], *Turdus borbonicus* [now *Hypsipetes borbonicus*]; Boddaert (1783) *Certhia borbonica* [now *Zosterops borbonicus*, see below]; Gmelin (1788–89) *Certhia borbonica* (p. 471), *Emberiza borbonica* (p. 886), *Hirundo borbonica* (p. 1017), *Motacilla burbonica* [sic] (p. 981), *Muscicapa borbonica* (p. 939), *Turdus borbonicus* (p. 821)<sup>3</sup>; and Latham (1790) *Sylvia borbonica* [now *Zosterops borbonicus*].

Two earlier names based on the same island, *Loxia bourbonensis* and *Muscicapa bourbonensis*<sup>4</sup> [sic] were listed by Sherborn and attributed to P. L. S. Müller (1776)—an author whose spelling is apparently best rendered P. L. Stadius Muller (see Kooiman 1950).

The *Planches enluminées* included depictions of three other species listed by Boddaert, but for which he did not provide a scientific name. One, the 'Gobemouche huppé de l'Isle de Bourbon'<sup>5</sup>, in pl. 573 (fig. 1), was named by Stadius Muller; the other two, the 'Hirondelle brune de l'Isle de Bourbon'<sup>6</sup> depicted in pl. 544 (fig. 2), and the white-eye, the 'Figuiier de l'Isle de Bourbon' in pl. 705 (fig. 2)<sup>7</sup>, were named by Gmelin, who also named the gobemouche, creating a synonym for Stadius Muller's name.

Unfortunately, the rather rare work by Forster (1781) has been widely overlooked. This book originated as the first part of a projected work by Thomas Pennant<sup>8</sup> on Indian zoology, published in 1769 with just 12 plates (Pennant 1769). The project was then abandoned and the plates, including three unpublished ones, presented to Johann Reinhold Forster (see Zimmer 1926). Forster added a new essay and amplified Pennant's descriptions in his main text (see Pennant 1790 as quoted by Elliott 1877). Forster also added an appendix entitled *Specimen faunulae Indicae*, which he attributed to 'autore Thoma Pennant Armigero R.S.S.', hence Sherborn's attribution 'Pennant in Forster' mentioned above. Allen (1908) considered this appendix to have been written by Pennant, but cannot have read Pennant (1790)<sup>9</sup> who, writing of Forster, stated that 'he added several notes and at the end presented his readers with a *Faunula* of the quadrupeds and birds of the extensive region of India and its Islands'. Hence Forster clearly falsely attributed his own *Faunula* to Pennant, no doubt in homage,

<sup>2</sup> See Stresemann (1952).

<sup>3</sup> Currently, respectively, *Zosterops borbonicus*, '*Foudia bruante*' (Stadius Muller 1776) = *F. madagascariensis* (Linnaeus, 1766; see Cheke 1983), *Phedina borbonica* (J. F. Gmelin, 1789), *Z. borbonicus* (again), a synonym of *Terpsiphone bourbonensis* (Stadius Muller 1776), a synonym of *Hypsipetes borbonicus* (Forster 1781)—see below.

<sup>4</sup> Now respectively a synonym of *Scrinus alario* Linnaeus, 1758 (from southern Africa not Réunion, see Hellmayr 1938, Cheke 1983), and *Terpsiphone bourbonensis*.

<sup>5</sup> Now *Terpsiphone bourbonensis* (Stadius Muller, 1776).

<sup>6</sup> Now *Phedina borbonica*.

<sup>7</sup> Discussed below in relation to *Zosterops borbonicus*.

<sup>8</sup> Pennant was responsible for the text; the cost of the plates he shared with Sir Joseph Banks and Gideon Loten.

<sup>9</sup> Hume (1878) noted that the Preface is dated 1791 and implied that the title page was given an early date. Hume's questions about the names found in Pennant (1769) were answered by Newton (1879) who listed the names from the 12 plates (1–11 + 13).

despite it including many species well outside the geographical scope of Pennant's original descriptions and plates. As recognised by Elliott (1877), Forster, not Pennant, should be accepted as author of the *Faunula*. Pennant's repudiation of his authorship of the *Faunula* was missed by Zimmer (1926) and by Wood (1931).

Forster's work seems to have been checked by Rand (1960) who, treating the Réunion Bulbul or Merle *Hypsipetes borbonicus*, gave its original combination as *Turdus borbonicus* J. R. Forster (1781)<sup>10</sup> and below that listed its re-use by Gmelin (1789), perhaps signalling that historically Gmelin had been credited. This was accepted by Dickinson (2003), but not by Safford & Hawkins (2013) who reverted to the use of Gmelin (1789). However, in the course of resolving the more complex issue dealt with below, Forster's work has now been examined and therein, on p. 41 he lists '*Turdus Borbonicus* Br. II. 293'. By inclusion of an indication of the source reference, wherein there is a description, this meets the requirements of Arts. 11–12 in the *International code of zoological nomenclature* (ICZN 1999).

Dickinson (2003) did not check Forster's work and Dickinson & Christidis (2014) sustained the attribution to Forster, again without checking, because the differing treatment by Safford & Hawkins (2013) was initially overlooked. However, as explained above, Forster's introduction of the name was valid and he must be recognised as the author.

Arising from this finding there appeared to be a related issue: the authorship of the name of the white-eye from Réunion *Zosterops borbonicus*. Moreau (1967), like Gadow (1884), attributed the name to Gmelin (1789) whose original combination he gave as *Motacilla borbonica*, although Gmelin's actual spelling, generally considered a typographical error<sup>11</sup>, was *burbonica*. Dickinson (2003) retained that attribution. However, Cheke (1983) and Safford & Hawkins (2013), concurring with Sherborn (1902), attributed the name to Boddaert (1783), while acknowledging that the name was usually attributed either to Gmelin (1789) or (Safford & Hawkins) to Forster (1781). After checking Boddaert's work, Dickinson & Christidis (2014) agreed with the attribution to Boddaert, having sought to satisfy themselves that the source used by both Boddaert and Gmelin was Brisson (1760).

Brisson's material was the same as that painted by Martinet for many of Daubenton's *Planches enluminées*, thereby permitting Dickinson & Christidis (2014) to consider that the implicit type material (i.e. the original specimens) must have been the same. They did not realise, however, that Boddaert, as already discussed by Cheke (1983), had named his bird from Daubenton's pl. 681 fig. 2, using a different specimen probably from another source (Cheke 2009), and that Boddaert's original combination was *Certhia borbonica* with the French name 'Souimanga de l'Île de Bourbon'.

In contrast, Gmelin's name is clearly based on Buffon's 'Petit Simon', which is depicted in fig. 2 of pl. 705 of the *Planches enluminées*, still entitled 'Figuier de l'Isle de Bourbon' as named by Brisson. Thus Gmelin's name is not based on the same material as Boddaert's name and when placed in *Zosterops* is a junior homonym. Boddaert himself mistook pl. 705 fig. 2 for a Linnean species, '*Motacilla dominica*', which is why he did not give it a new name.

Réunion White-eye is curious in that it is subject to remarkable local plumage variation referred to by Safford & Hawkins as 'clinal colour morphs', based on which Hartlaub (1877) described a population from Nez de Boeuf at 2,100 m and Storer & Gill (1966) named two other populations: one from sea level and another from 1,500 m. Given the complex nature

<sup>10</sup> Note that Rand did not credit the name to 'Pennant in Forster (1781)', either having read Elliott (1877) or expecting that the forthcoming *International code of zoological nomenclature*, published in 1961, would give credit to the person who published the name and that Forster was that person.

<sup>11</sup> Gmelin spelt *borbonicus/-ca* correctly in five other cases (see above, Sherborn's list), hence everyone, from early on—e.g. Lamouroux & Desmarest (1824–30)—has treated '*burbonica*' as a typographical error, which is justified by the internal evidence in Gmelin's work.



of this variation (Gill 1973, Milá *et al.* 2010), these names are not now accepted as relating to identifiable subspecies. The two plates in the *Planches enluminées* discussed above represent different colour morphs.

Neither Boddaert's not Gmelin's names pre-date Forster (1781), where he was the first to introduce the name *Motacilla borbonica*. He gave a clear indication on p. 41 that he based this on Brisson, vol. 3: 510, where Brisson called this white-eye species *Ficedula borbonica* and Le Figuier de l'Isle de Bourbon. The original specimen was the subject of pl. 28 fig. 3 in Brisson's work, and, as mentioned above, subsequently of pl. 705 fig. 2 in the *Planches enluminées*. Thus Gmelin's name is a repetition of Forster's, based on the same material, and a change of authorship to Forster does not imply a change of type material. The correct names for the two species under discussion are thus:

Réunion Bulbul *Hypsipetes borbonicus* (J. R. Forster 1781)

Réunion Grey White-eye *Zosterops borbonicus* (J. R. Forster 1781).

#### Acknowledgements

We thank Les Christidis, Roger Safford, an anonymous reader and two referees for their helpful comments on a draft of this article. Scientific nomenclature in this paper has been reviewed by the Working Group on Avian Nomenclature of the International Ornithologists' Union.

#### References:

- Allen, J. A. 1908. Pennant's 'Indian Zoology'. *Bull. Amer. Mus. Nat. Hist.* 24: 111–116.
- Boddaert, P. 1783. *Table des planches enluminées d'histoire naturelle de M. d'Aubenton. Avec les dénominations de M.M. de Buffon, Brisson, Edwards, Linnæus et Latham, précédé d'une notice des principaux ouvrages zoologiques enluminés.* Utrecht. [Reprinted, with minor changes, 1874, ed. by W. B. Tegetmeier, London.]
- Brisson, M. J. 1760. *Ornithologia sive synopsis methodica sistens Avium visionem in ordines Sectiones, Genera, Species ipsarumque Varietates*, 6 vols. Paris.
- Buffon, G. L. LeClerc (Comte de). 1770–83. *Histoire naturelle des oiseaux.* Imprimerie Royale, Paris. [Three original editions with variable numbers of volumes, published over more or less the same dates; one, in 10 vols. includes the *Planches enluminées* by Martinet. Numerous later reprints; see Genet-Varcin, E. & Roger, J. 1954. *Bibliographie de Buffon*, Presses Universitaires de France, Paris, and Mayaud, N. 1939. *Alauda* 9: 18–32.]
- Cheke, A. S. 1983. The identity of Buffon's *Grand Traquet* and other nomenclatural problems in eighteenth century descriptions of endemic Mascarene birds. *Bull. Brit. Orn. Cl.* 103: 95–100.
- Cheke, A. S. 2009. Data sources for 18th century French encyclopaedists - what they used and omitted: evidence of data lost and ignored from the Mascarene Islands, Indian Ocean. *J. Natl. Mus. Praha, Nat. Hist. Ser.* 177: 91–117.
- Daubenton, E. L. (ed.) 1765–80. *Collection de planches d'histoire naturelle enluminées.* Pancoucke, Paris.
- Dickinson, E. C. (ed.) 2003. *The Howard and Moore complete checklist of the birds of the world.* Third edn. Christopher Helm, London.
- Dickinson, E. C. & Christidis, L. (eds.) 2014. *The Howard and Moore complete checklist of the birds of the world*, vol. 2. Fourth edn. Aves Press, Eastbourne.
- Elliott, D. G. 1877. [Letter to editor on Pennant's *Indian zoology*]. *Ibis* (4)1: 488–490.
- Forster, J. R. 1781. *Indische zoologic oder systematischer Beischreibungen seltener und bekannter Thiere aus Indien, mit 15 illuminierten kupfertafeln erläutert.* Halle.
- Gadow, H. 1884. *Catalogue of the birds in the British Museum*, vol. 9. Trustees of the Brit. Mus., London.
- Gill, F. B. 1973. Intra-island variation in the Mascarene White-eye *Zosterops borbonica*. *Orn. Monogr.* 12: 1–66.
- Gmelin, J. F. 1789. *Systema naturae, per regna tria naturae*, vol. 2. Bernuset, Delamollière, Falquet et Soc., Lugduni [Lyon].
- Hartlaub, G. 1877. *Die Vögel Madagascars und der benachbarten Inselgruppen: Ein Beitrag zur Zoologie der äthiopischen Region.* Schmidt, Halle.
- Hume, A. O. 1878. Pennant's *Indian Zoology*. *Stray Feathers* 7: 506–508.
- Hellmayr, C. E. 1938. Catalogue of birds of the Americas and adjacent islands, pt. 11. *Publ. Field Mus. Nat. Hist., Zool. Ser.* 13(11).
- International Commission of Zoological Nomenclature (ICZN). 1955. Direction 16. Validation under the Plenary Powers of Brisson (M. J.), 1769 [?1760], "Ornithologia sive synopsis methodica sistens avium divisionem in ordines". Direction in replacement of Opinion 37. *Opinions and Declarations rendered by the International Commission on Zoological Nomenclature* 1c: 81–88.

- International Commission of Zoological Nomenclature (ICZN). 1963. Direction 105. Brisson, 1760 Ornithologie: restriction to certain portions of that work of the validation granted under the Plenary Powers. *Bull. Zool. Nomencl.* 20: 343–344.
- International Commission of Zoological Nomenclature (ICZN). 1999. *International code of zoological nomenclature*. Fourth edn. International Trust of Zoological Nomenclature, London.
- Kooiman, W. J. 1950. Philippus Ludovicus Stadius Muller. Earebondel ta de tachtichste jierdei fan Dr. G. A. Wumkes op 4 septimber 1949. *Oambeam Troch de Fryske Akad. Boalsert, Ultjowerij Fa. A. J. Osinga* 74–130.
- Lacroix, A. 1936. Notice historique sur les membres et correspondents de l'Académie des Sciences ayant travaillé dans les colonies françaises des Mascareignes et de Madagascar au XVIIIe siècle et au début du XIXe. *Mem. Acad. Sci. Inst. France* (2)62: 1–119. [Also published in book form by Gauthier Villars, Paris; usually cited as '1934' – the date of Lacroix's lecture.]
- Lamouroux, J. V. F. & Desmarest, A. G. (eds.) 1824–30. *Oeuvres complètes de Buffon avec les descriptions anatomiques de Daubenton son collaborateur*, 11 vols. Nouv. Éd. Oiseaux. Ladrangé & Verdière, Paris.
- Latham, J. 1790. *Index ornithologicus, sive systema ornithologiae*. Leigh & Sotheby, London.
- Linnaeus, C. 1758. *Systema naturae*. Laurentii Salvii, Holmiae.
- Linnaeus, C. 1766. *Systema naturae*. Stockholm.
- Milá, B., Warren, B. H., Heeb, P. & Thébaud, C. 2010. The geographic scale of diversification on islands: genetic and morphological divergence at a very small spatial scale in the Mascarene grey white-eye (Aves: *Zosterops borbonicus*). *BMC Evol. Biol.* 10: 158: 1–13.
- Moreau, R. E. 1967. Passeriformes: suborder Oscines, family Zosteropidae, African taxa. Pp. 326–337 in Paynter, R. A. (ed.) *Check-list of birds of the world. A continuation of the work of James L. Peters*, vol. 12. Mus. Comp. Zool., Cambridge, MA.
- Newton, A. 1879. [Letter to the editor.] *Stray Feathers* 8: 414–415.
- North-Coombes, G. P. A. 1980. *La découverte des Mascareignes par les Arabes et les Portugais. Retrospective et mise à point*. Service Bureau, Port Louis.
- Pennant, T. 1769. *Indian zoology*. London.
- Pennant, T. 1790. *Indian zoology*. Second edn. London.
- Rand, A. L. 1960. Passeriformes: suborder Oscines, family Pycnonotidae. Pp. 221–300 in Mayr, E. & Greenway, J. C. (eds.) *Check-list of birds of the world. A continuation of the work of James L. Peters*, vol. 9. Mus. Comp. Zool. Cambridge, MA.
- Safford, R. & Hawkins, F. (eds.) 2013. *The birds of Africa*, vol. 8. Christopher Helm, London.
- Schmitt, S. (ed.) 2007. *Buffon – histoire naturelle des oiseaux illustrée par 1008 gravures de François Nicolas Martinet*. Ed. Citadelles & Mazenod, Paris.
- Sherborn, C. D. 1902. *Index animalium sive index nominum quae ab A.D. MDCCLVIII generibus et speciebus animalium imposita sunt. 1758–1800*. Cambridge Univ. Press, Cambridge, UK.
- Stadius Müller, P. L. 1776. *Des Ritters Carl von Linné' vollständiges Natursystems Supplements und register band*. Gabriel Nicolaus Raspe, Nurnberg.
- Storer, R. W. & Gill, F. B. 1966. A revision of the Mascarene White-eye *Zosterops borbonica* (Aves). *Occ. Pap. Mus. Zool., Univ. Michigan* 648.
- Stresemann, E. 1952. On the birds collected by Pierre Poivre in Canton, Manila, India and Madagascar (1751–1756). *Ibis* 94: 499–523.
- Toussaint, A. 1972. *Histoire des Iles Mascareignes*. Berger-Levrault, Paris.
- Wood, C. A. 1931. *An introduction to the literature of vertebrate zoology based chiefly on the titles in the Blacker Library of Zoology, the Emma Shearer Wood Library of ornithology, the Bibliotheca Osleriana and other libraries of McGill University, Montreal*. Oxford Univ. Press, London.
- Zimmer, J. T. 1926. Catalogue of the Edward E. Ayer Ornithological Library. *Field Mus. Nat. Hist. Zool. Ser.* 16: 365–706.
- Addresses: Edward C. Dickinson, Flat 3, Bolsover Court, 19 Bolsover Road, Eastbourne, East Sussex, BN20 7JG, UK, e-mail: edward@asiaorn.org. Anthony S. Cheke, 13 Hurst Street, Oxford OX4 1HE, UK.